

controlling to display the image data and a plurality of frames  
containing the character data according to each determined type; and  
storing the image data with the character data contained in the  
frames for each type.

### REMARKS

This application has been reviewed in light of the Office Action dated August 1, 2001. Claims 31-34, 36, 37, 39-44, 49, 50, 55, and 56 are presented for examination. Claims 35, 38, and 51-54 have been canceled, without prejudice or disclaimer of the subject matter presented therein. Claims 31-34, 36, 37, 39-44, 49, 50, and 55 have been amended to define more clearly what Applicants regard as their invention, in terms that distinguish over the art of record. Claim 56 has been added to provide Applicants with a more complete scope of protection. Claims 31, 55, and 56 are in independent form. Favorable reconsideration is requested.

Claims 54 and 55 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 4,965,763 (Zamora). Cancellation of Claim 54 renders its rejection moot. Applicants respectfully traverse the rejection of Claim 55.

Claims 31-53 were rejected under 35 U.S.C. § 103(a) as being obvious from Zamora in view of U.S. Patent No. 4,807,182 (Queen). Cancellation of Claims 35, 38 and 51-53 renders their rejection moot. Applicants respectfully traverse the rejection of Claims 31-34, 36, 37, and 39-50.

The aspect of the present invention set forth in Claim 55 is an information processing method that includes that steps of obtaining image data generated by scanning a

sheet and analyzing obtained image data by using optical character recognition. A determining step determines a type of character data from the optical character recognition result based on the characters of the optical character recognition result and a controller controls a display of image data, and a plurality of frames containing the character data, according to each determined type of character. The method also includes a step of storing the image data with the character data contained in the frames for each type of data.

One important feature of Claim 55 is the combination of the recited obtaining step, determining step, controlling step of the controller, and storing step.

Zamora, as understood by Applicants, relates to a Parametric Information Extraction (PIE) system that automatically identifies commonly specified information such as the author, date, recipient, address, subject statement, etc., from documents in a free format. The program-generated data can be used directly, or can be supplemented manually, to provide automatic indexing or indexing aid, respectively. In Zamora, a step is disclosed for executing a second pass over the word characterization table taking inventory to make sure that the words that have been tagged in the table can be interpreted as personal names (see col. 30, lines 5-14). However, even if Zamora extracts desired data, nothing in Zamora would teach or suggest an information processing method that includes the combination of the recited obtaining step, determining step, controlling step of the controller, and storing step, as recited in Claim 55.

In addition, the Office Action states that Zamora teaches a character recognition means at column 5, lines 5 and 6, which relates to a parser. As stated therein, a parser constructs a bidirectional list data structure consisting of list nodes, string nodes, and attribute nodes (see col. 5, lines 7-9), and apparently analyzes text for the identification of

sentence components including part of speech and phrase structure. However, the method as recited in Claim 55 relates to "optical character recognition", which analyzes image data by a pattern matching method (see, e.g., page 9 of the specification, lines 24-26), where a pattern is analyzed based on recognizing *characters* as compared to commonly specified words or phrases disclosed in Zamora. In addition, with optical character recognition, the method recited in Claim 55 identifies the character data type based on the optical character result and nothing in Zamora regarding syntactic parsing appears to relate to such an analysis. Accordingly, at least for this reason, Applicants submit that Claim 55 is patentable over Zamora.

The aspect of the present invention set forth in Claim 31 is an information processing apparatus that includes an obtaining means for obtaining image data generated by scanning a sheet and an optical character recognition means for analyzing obtained image data by using optical character recognition. A determining means of the apparatus determines a type of character data based on the characters of the optical character recognition result and a display controller of the apparatus controls a display of image data, and a plurality of frames containing the character data, according to each type of character data determined by the determining means. The apparatus also includes a memory for storing the image data with the character data contained in the frames for each type of character.

One important feature of Claim 31 is the combination of the recited obtaining means, optical character recognition means, and determining means with the display controller and a memory.

Queen, as understood by Applicants, relates to a method and apparatus for comparing original and modified versions of a document. In Queen, only two files are displayed simultaneously, and the difference between the two documents is determined, as shown in Figure 3. In the apparatus recited in Claim 31, a plurality of frames of obtained image data can be analyzed. In addition, nothing has been found in Queen that teaches or suggests the combination of the recited obtaining means, optical character recognition means, and determining means with the display controller and a memory, as recited in Claim 31.

Applicants submit that the proposed combination of Zamora and Queen, assuming such combination would even be permissible, would still fail to teach or suggest the combination of the recited obtaining means, optical character recognition means, and determining means with the display controller and a memory and, at for all these reasons, Applicants submit that Claim 31 is patentable over the cited art.


Claim 56 is a computer programming claim corresponding to method Claim 55 and apparatus Claim 31, and accordingly, Claim 56 is believed to be patentable for at least the same reasons as discussed above in connection with Claim 55 and Claim 31.

The other claims in this application are each dependent from Claim 31, discussed above, and are therefore believed patentable for the same reasons as discussed above in relation to Claim 31. Since each dependent claim is also deemed to define an additional aspect of the invention, however, the individual reconsideration of the patentability of each on its own merits is respectfully requested.

In view of the foregoing amendments and remarks, Applicants respectfully request favorable reconsideration and early passage to issue of the present application.

Applicants' undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,

  
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NY\_MAIN 227662 v 1



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VERSION WITH MARKINGS TO SHOW CHANGES MADE TO CLAIMS

31. (Amended) An information processing apparatus comprising:

[an information reader for reading image information recorded on a recording medium;

data conversion means for converting the read image information to digital data;

an image memory for storing the digital data converted from the image information;

character-recognition means for character-recognizing the digital data converted from the image information;

display control means for causing to be simultaneously displayed on a display device (1) a first frame containing only the read image information, and (2) a second frame containing, at predetermined positions therein, only the character-recognized data]

obtaining means for obtaining image data generated by scanning a sheet;

optical character recognition means for analyzing obtained image data by using optical character recognition;

determining means for determining a type of character data of the optical character recognition result based on the characters of the optical character recognition result;

a display controller that controls a display of image data and a plurality of frames containing the character data according to each type determined by said determining means; and

memory for storing the image data with the character data contained in the frames  
for each type of character.

32. (Amended) An apparatus according to Claim 31, wherein the [first and second frames] image data and the plurality of frames are displayed side-by-side.

33. (Amended) An apparatus according to Claim 31, [further comprising extracting means for extracting data corresponding to a plurality of pre-defined information types from the character-recognized data] wherein said determining means determines the type of character data by judging whether the characters of the optical character recognition result includes a predetermined character.

34. (Amended) An apparatus according to Claim 33, wherein the [pre-defined information types include] type of character data includes a name and a phone number.

36. (Amended) An apparatus according to [Claim 33] Claim 31, wherein said display controller [means causes a third frame containing the extracted data to be displayed on the display device] displays another frame containing all of the characters of the optical character recognition result.

37. (Amended) An apparatus according to [Claim 36] Claim 31, [further comprising registration means for registering the extracted data displayed in the third frame into a card file] wherein said memory stores, as a card file, the image data, with the character data contained in the frames for each type.

39. (Amended) An apparatus according to [Claim 36] Claim 31, further comprising a manual entry [interface arranged to accept] device, adapted to accept manual entry of character data, and means for correcting or adding [to the extracted] the character data [displayed in the third frame] in the displayed frames in accordance with the character data entered via said manual entry device.

40. (Amended) An apparatus according to Claim 36, further comprising copy means for copying [a line of character-recognized data displayed in the second frame] the characters, [corresponding to a pre-defined information type, into a line of the third frame corresponding to the same pre-defined information type] the characters being selected from all of the characters displayed in the another frame, to a desired one of plurality of frames.

41. (Amended) An apparatus according to [Claim 37] Claim 31, further comprising [searching means for searching] a search unit, adapted to search [a plurality of card files for a desired item of registered data] stored image data and stored character data for a desired item.



42. (Amended) An apparatus according to Claim 41, wherein the [registered data in each of the card files] stored character data includes at least a name and a phone number, and a desired phone number is searched in accordance with a corresponding [registered] stored name entered into said [searching means] search unit.

43. (Amended) An apparatus according to [Claim 37] Claim 31, further comprising [selecting means for selecting] a selector adapted to select one of a plurality of [registered data in the card files] stored character data.

44. (Amended) An apparatus according to Claim 43, wherein [the] said [selecting means] selector selects one of a plurality of [registered] stored phone numbers.

49. (Amended) An apparatus according to Claim 31, [wherein said] further comprising an image reader [is located on an upper surface of a main body of said information processing apparatus] for scanning the sheet to generate the image data, wherein said image reader is located on an upper surface of a main body of said information processing apparatus.

50. (Amended) An apparatus according to Claim 31, [wherein said] further comprising a display device [comprises a liquid crystal display device], wherein said display controller controls a display of the image data and the plurality of frames on the display device.

55. (Amended) An information processing method comprising the steps of:

[reading image information from a recording medium;

converting the read image information to digital data;

storing the digital data converted from the image information in an image memory;

character-recognizing the digital data converted from the image information;

displaying on a display device (1) a first frame containing only the read image information, and (2) a second frame containing, at predetermined positions therein, only the character-recognized digital data]

obtaining image data generated by scanning a sheet;

analyzing obtained image data by using optical character recognition;

determining a type of character data from the optical character recognition result based on the characters of the optical character recognition result;

controlling a display of image data and a plurality of frames containing the character data according to each determined type of character; and

storing the image data with the character data contained in the frames for each type.

56. (New) A computer program for a computer, comprising software codes for performing the following steps:

obtaining image data generated by scanning a sheet;

analyzing obtained image data by using optical character recognition;  
determining a type of character data of the optical character recognition  
result based on the characters of the optical character recognition result;  
controlling a display of image data and a plurality of frames containing the  
character data according to each determined type of character; and  
storing the image data with the character data contained in the frames for  
each type.

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